

PTO/SE/21 (09-04)

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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	09/621,281-Conf. #4261
	Filing Date	July 20, 2000
	First Named Inventor	Dong-Hoon LEE
	Art Unit	2871
	Examiner Name	H. C. Nguyen
Total Number of Pages in This Submission	Attorney Docket Number	3430-0126P

ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form  <input checked="" type="checkbox"/> Fee Attached  <input type="checkbox"/> Amendment/Reply  <input type="checkbox"/> After Final  <input type="checkbox"/> Affidavits/declaration(s)  <input checked="" type="checkbox"/> Extension of Time Request  <input type="checkbox"/> Express Abandonment Request  <input type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s)  <input type="checkbox"/> Reply to Missing Parts/ Incomplete Application  <input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s)  <input type="checkbox"/> Licensing-related Papers  <input type="checkbox"/> Petition  <input type="checkbox"/> Petition to Convert to a Provisional Application  <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address  <input type="checkbox"/> Terminal Disclaimer  <input type="checkbox"/> Request for Refund  <input type="checkbox"/> CD, Number of CD(s) _____  <input type="checkbox"/> Landscape Table on CD	<input type="checkbox"/> After Allowance Communication to TC  <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences  <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)  <input type="checkbox"/> Proprietary Information  <input type="checkbox"/> Status Letter  <input type="checkbox"/> Other Enclosure(s) (please Identify below):
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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT			
Firm Name	BIRCH, STEWART, KOLASCH & BIRCH, LLP		
Signature			
Printed name	James T. Eller, Jr.		
Date	June 13, 2005 (Monday)	Reg. No.	39,538



PTO/SB/17 (12-04v2)

Approved for use through 7/31/2006. OMB 0651-0032  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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<b>Effective on 12/08/2004.</b> <b>Fees pursuant to the Consolidated Appropriations Act, 2005 (H.R. 4818).</b>		<b>Complete if Known</b>	
<b>FEE TRANSMITTAL</b> <b>For FY 2005</b>		Application Number	09/621,281-Conf. #4261
		Filing Date	July 20, 2000
		First Named Inventor	Dong-Hoon LEE
		Examiner Name	H. C. Nguyen
		Art Unit	2871
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27		Attorney Docket No.	3430-0126P
<b>TOTAL AMOUNT OF PAYMENT</b>		<b>(\$)</b>	<b>950.00</b>

**METHOD OF PAYMENT** (check all that apply)

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**FEE CALCULATION****1. BASIC FILING, SEARCH, AND EXAMINATION FEES**

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

**2. EXCESS CLAIM FEES**

Fee Description	Fee (\$)	Small Entity Fee (\$)
Each claim over 20 (including Reissues)	50	25
Each independent claim over 3 (including Reissues)	200	100
Multiple dependent claims	360	180

<u>Total Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>	<u>Multiple Dependent Claims</u>
_____	_____	_____	_____	<u>Fee (\$)</u> <u>Fee Paid (\$)</u>
_____ - = _____ x _____ = _____				_____
<u>Indep. Claims</u>	<u>Extra Claims</u>	<u>Fee (\$)</u>	<u>Fee Paid (\$)</u>	
_____	_____	_____	_____	
_____ - = _____ x _____ = _____				

**3. APPLICATION SIZE FEE**

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
_____	_____	_____ / 50 _____ (round up to a whole number) x _____	_____	_____

**4. OTHER FEE(S)**

	Fees Paid (\$)
Non-English Specification, \$130 fee (no small entity discount)	
Other (e.g., late filing surcharge): <u>1252 Extension for response within second month</u>	<u>450.00</u>
<u>1402 Filing a brief in support of an appeal</u>	<u>500.00</u>

<b>SUBMITTED BY</b>			
Signature	<u>James T. Eller, Jr.</u>	Registration No. (Attorney/Agent)	39,538
Name (Print/Type)	James T. Eller, Jr.	Telephone	(703) 205-8000
		Date	June 13, 2005 (Monday)



**MS APPEAL BRIEF - PATENTS**  
Docket No.: 3430-0126P  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Dong-Hoon LEE

Application No.: 09/621,281

Confirmation No.: 4261

Filed: July 20, 2000

Art Unit: 2871

For: TRANSFLECTIVE LIQUID CRYSTAL  
DISPLAY DEVICE

Examiner: H. C. Nguyen

**APPEAL BRIEF TRANSMITTAL FORM**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is an Appeal Brief on behalf of the Appellants in connection with the above-identified application.

☐ The enclosed document is being transmitted via the Certificate of Mailing provisions of 37 C.F.R. § 1.8.

A Notice of Appeal was filed on February 11, 2005.

☐ Applicant claims small entity status in accordance with 37 C.F.R. § 1.27.

The fee has been calculated as shown below:

☒ Extension of time fee pursuant to 37 C.F.R. §§ 1.17 and 1.136(a) - \$450.00.

☒ Fee for filing an Appeal Brief - \$500.00 (large entity).

Application No.: 09/621,281

Docket No.: 3430-0126P

☒ Check(s) in the amount of \$950.00 is(are) attached.

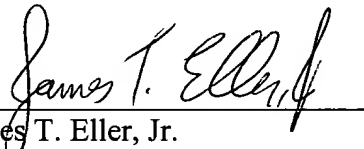
☐ Please charge Deposit Account No. 02-2448 in the amount of \$950.00. A triplicate copy of this sheet is attached.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: June 13, 2005 (Monday)

Respectfully submitted,



By 

James T. Eller, Jr.

Registration No.: 39,538

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Rd

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant

Attachment(s)



PATENT  
3430-0126P

**IN THE U.S. PATENT AND TRADEMARK OFFICE**

In Re Application of

Before the Board of Appeals

Dong-Hoon Lee

Appeal No.

Appl. No.: 09/621,281

Group: 2871

Filed: July 20, 2000

Examiner: N. C. Hoan

Conf. No.: 4261

For: TRANSFLECTIVE LIQUID CRYSTAL DISPLAY DEVICE

**APPEAL BRIEF ON BEHALF OF APPELLANT UNDER**  
**37 C.F.R. §41.37**

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## TABLE OF CONTENTS

I.	REAL PARTY IN INTEREST	2
II.	RELATED APPEALS AND INTERFERENCES	3
III.	STATUS OF CLAIMS	4
IV.	STATUS OF AMENDMENTS	5
V.	SUMMARY OF CLAIMED SUBJECT MATTER	6
VI.	GROUND OF REJECTION TO BE REVIEWED ON APPEAL	8
VII.	ARGUMENT	9
	<i>A. The Present Invention and its Advantages</i>	9
	<i>B. Distinctions of the Invention Over Kubo and Taiji</i>	10
	<i>C. Summary</i>	19
VIII.	CONCLUSION	19
	APPENDIX A - CLAIMS APPENDIX	21



**MS APPEAL BRIEF - PATENTS**  
PATENT  
3430-0126P

**IN THE U.S. PATENT AND TRADEMARK OFFICE**

In Re Application of

Before the Board of Appeals

Dong-Hoon Lee

Appeal No.

Appl. No.: 09/621,281

Group: 2871

Filed: July 20, 2000

Examiner: N. C. Hoan

Conf. No.: 4261

For: TRANSFLECTIVE LIQUID CRYSTAL DISPLAY DEVICE

**APPEAL BRIEF ON BEHALF OF APPELLANT UNDER**  
**37 C.F.R. §41.37**

**MS APPEAL BRIEF- PATENTS**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

June 13, 2005  
(Monday)

Dear Sir:

This is an Appeal from the Rejection of October 13, 2004 of claims 1-5, 7-13 and 15-17 in the above-identified application.

Appeal Brief filed June 13, 2005

Appl. No.: 09/621,281  
Group: 2871

**I. REAL PARTY IN INTEREST**

As evidenced by the Assignment filed January 22, 2001 and recorded at Reel 011454, Frames 0046-0048 the Real Party In Interest in connection with the present application is the Assignee of record: LG. PHILIPS LCD CO., LTD., 20 Yoido-dong, Youngdungpo-gu, Seoul, Republic of Korea.



**II. RELATED APPEALS AND INTERFERENCES**

There are no pending Appeals or Interferences related to the present application known to the Appellant or the Appellant's Legal Representatives.

Appeal Brief filed June 13, 2005

Appl. No.: 09/621,281  
Group: 2871

### **III. STATUS OF CLAIMS**

Claims 1-5, 7-13 and 15-17 are pending in the application. Claims 1-5, 7-13 and 15-17 stand rejected.

#### **IV. STATUS OF AMENDMENTS**

A Reply Under 37 C.F.R. § 1.111 was filed on July 22, 2002. An Amendment Under 37 C.F.R. § 1.111 was filed on January 30, 2003. A Reply Under 37 C.F.R. § 1.116 was filed on July 8, 2003. The Advisory Action of July 16, 2003 refused to enter the Reply Under 37 C.F.R. § 1.116, and a Request For Continued Examination accompanied by a Preliminary Amendment were filed on August 8, 2003. An Amendment Under 37 C.F.R. § 1.111 was filed on December 23, 2003. A Reply Under 37 C.F.R. § 1.116 was filed on June 22, 2004. The Advisory Action of July 12, 2004 stated that the Reply had been considered but did not place the application in condition for allowance. A Request For Continued Examination accompanied by a Preliminary Amendment were filed on July 22, 2004. The Examiner mailed a final Office Action on October 13, 2004. A Notice of Appeal was filed on February 11, 2005.

Accordingly, all amendments presented by the Appellant have been entered.

## **V. SUMMARY OF CLAIMED SUBJECT MATTER**

The present invention pertains to a transflective liquid crystal display device that includes a transflective liquid crystal display panel having a first transparent substrate, a second transparent substrate, and a liquid crystal layer interposed between the first and second transparent substrates (page 5, lines 1-3). The first transparent substrate has a color filter, and the second transparent substrate has a plurality of pixel regions, a pixel electrode and a reflector (page 5, lines 3-5). The reflector has a light transmitting hole which the pixel electrode covers, and the light transmitting hole transmits light (page 5, lines 5-6). A transflective film is located outside of the second transparent substrate of the liquid crystal display panel around a location corresponding to the light transmitting hole (page 5, lines 6-8), and the transflective film is made of a transmissive material with reflective material scattered on a surface of the transmissive material, the reflective material reflecting light, the transmissive material transmitting light (page 5, lines 8-11). In the invention, a back light device for supplies light toward the transflective film (page 5, lines 11-12). Also, each pixel region is divided into reflective and transmissive portions (page 7, lines 12-13), and a reflection brightness of the transflective liquid crystal display device is improved due to a first reflected light at the reflector of the reflective portion and a second reflected light at the transflective film of the

transmissive portion (page 8, lines 8-14). Also, a concentration of the reflective material scattered on the surface of the transmissive material (page 7, lines 13) is adjusted according to a main mode of the transflective liquid crystal display device (page 8, lines 6-7).

**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The sole issue presented for review is whether the combination of Kubo (U.S. Patent 6,296,109) and Taiji (JP 3228027) suggests all the elements of claims 1-5, 7-13 and 15-17 to support an obviousness rejection under 35 U.S.C. § 103(a).

## **VII. ARGUMENT**

Kubo and Taiji fail to suggest all of the elements set forth in claims 1-3, 5, 8, 9 and 12 to properly support a rejection under 35 U.S.C. §103(a).

### **A. The Present Invention and its Advantages**

The present invention pertains to a novel transfective liquid crystal display device that includes a transfective film formed from a transmissive material that has a reflective material (Ag or Al) scattered on a surface thereof. The concentration of the reflective material scattered on the surface of the transmissive material is adjusted according to a main mode of the transfective liquid crystal display device.

The inventive technology finds a typical embodiment in instant claim 1:

1. A transfective liquid crystal display device, comprising:
  - a transfective liquid crystal display panel having a first transparent substrate, a second transparent substrate, and a liquid crystal layer interposed between the first and second transparent substrates, the first transparent substrate having a color filter, the second transparent substrate having a plurality of pixel regions, a pixel electrode and a reflector, the reflector having a light transmitting hole which the pixel electrode covers, the light transmitting hole transmitting light;
  - a transfective film located outside of the second transparent substrate of the liquid crystal display panel around a location corresponding to the light transmitting hole, the transfective film being made of a transmissive material with reflective material scattered on a surface of the transmissive material, the reflective material reflecting light, the transmissive material transmitting light; and
  - a back light device for supplying light toward the

transflective film;

wherein each pixel region is divided into reflective and transmissive portions, and a reflection brightness of the transflective liquid crystal display device is improved due to a first reflected light at the reflector of the reflective portion and a second reflected light at the transflective film of the transmissive portion, and a concentration of the reflective material scattered on the surface of the transmissive material is adjusted according to a main mode of the transflective liquid crystal display device.

In the transflective LCD device of the invention, the amount of transmitted or reflected light can be controlled by increasing or decreasing the amount of reflective material scattered on the surface of the transmissive material. The light utilization efficiency in the reflective mode or the transmissive mode can thus be much improved. Also, the transflective LCD device having the reflective mode or the transmissive mode can be easily manufactured.

**B. Distinctions of the Invention Over Kubo and Taiji**

When a rejection is based on 35 USC §103, what is in issue in such a rejection is "the invention as a whole," not just a few features of the claimed invention. Under 35 U.S.C. §103, "[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to



which said subject matter pertains." The determination under §103 is whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. See In re O'Farrell, 853 F.2d 894, 902, 7 USPQ2d 1673, 1680 (Fed. Cir. 1988). In determining obviousness, the invention must be considered as a whole and the claims must be considered in their entirety. See Medtronic, Inc. v. Cardiac Pacemakers, Inc., 721 F.2d 1563, 1567, 220 USPQ 97, 101 (Fed. Cir. 1983).

In rejecting claims under 35 USC 103, it is incumbent on the examiner to establish a factual basis to support the legal conclusion of obviousness. See, In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one of ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reasoning must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. F-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir. 1988), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572,

1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a *prima facie* case of obviousness. Note, In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by the examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

Kubo pertains to a conventional liquid crystal display that includes substrates, a liquid crystal layer, a reflector made of an opaque conductive material, a back light device, an ITO pixel electrode and a hole. Kubo fails to disclose or suggest a transflective film located outside of the second transparent substrate of the liquid crystal display panel, and that the transflective film is made from an acrylic-based resin with a reflective material scattered on a surface thereof.

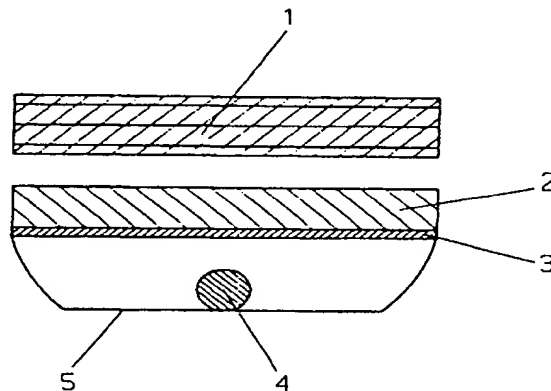
The Examiner unequivocally admits to the failings of Kubo at *inter alia* page 4, lines 1-12 of the Office Action mailed October 13, 2004:

However, Kubo et al. fail to disclose a transflective film located outside of the second transparent substrate of the liquid crystal display panel, and the transflective film is made of a transmissive material with reflective material scattered therein, wherein (a) transmissive material is made of acrylic-based resin according to claims 3 and 10, (b) the reflective material of the transflective film is selected from a group consisting of Ag and Al according to claims 2 and 11 and concentration of the reflective material scattering on a surface of the transflective film is adjusted according to main mode of the transflective liquid crystal display device; (c) the

transflective liquid crystal display device has a reflective main mode, and the concentration of the reflective material is increased according to claims 7 and 15; (d) the transflective liquid crystal display device has a transmissive main mode, and the concentration of the reflective material is decreased according to claims 8 and 16. (Emphasis in original).

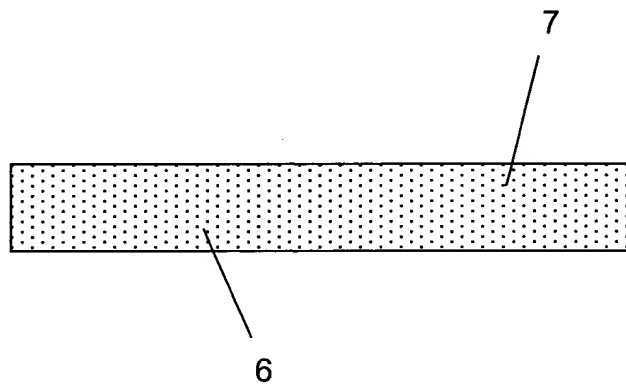
The Examiner then alleges that Taiji pertains to a transflective liquid crystal device. However, Taiji fails to disclose a **transflective** liquid crystal display device. Instead, Taiji pertains to a **translucent** liquid crystal device having a **diffusion plate**.

The fundamentally different technology of Taiji is shown in Figure 1 of Taiji, which is reproduced below.



第 1 図

The Abstract of Taiji clearly states: "The diffusion plate 2 is constituted of a milky white acrylic resin 6 and aluminum particles 7 are **incorporated therein.**" (Emphasis added). This is illustrated in Figure 2 of Taiji:

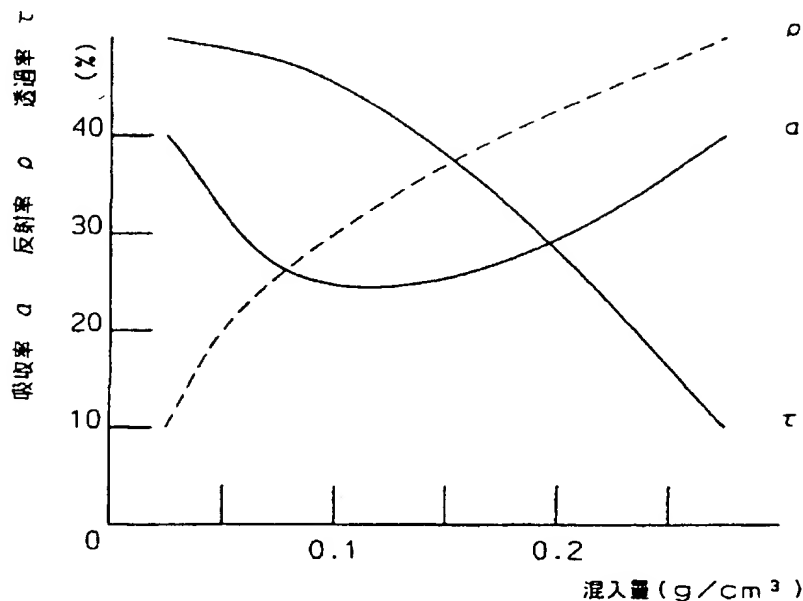


In contrast, the present invention has a transfective film "made of a transmissive material with reflective material scattered on a surface of the transmissive material," as is typically set forth in claim 1 (and similarly set forth in independent claim 10). The reflective material scattered on the surface allow that "a concentration of the reflective material scattered on the surface of the transmissive material is adjusted according to a main mode of the transfective liquid crystal display device."

Neither Kubo nor Taiji disclose or suggest the reflective material on a **surface** of the transmissive material. Neither Kubo nor Taiji disclose or suggest adjusting the reflective material on the **surface** of the transmissive

material according to the main mode of the device. Therefore the combination of Kubo and Taiji fails to disclose or suggest each and every element of independent claims 1 and 10 of the present invention. To establish *prima facie* obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All the words of a claim must be considered in judging the patentability of that claim against the prior art.” In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

For example, Figure 3 of Taiji (reproduced below) does not relate to an adjustment of a concentration of the reflective material according to a main mode, but instead illustrates the minimum absorption for reducing light loss in a **diffusion plate**.



第3図

Figure 3 of Taiji shows the minimum absorption for reducing light loss. Figure 3 of Taiji, that is, shows variations of transmittance ( $\tau$ ), reflectance ( $\rho$ ) and absorption ( $\alpha$ ) as a function of Al content. As a result, Figure 3 of Taiji pertains to the modulation of translucence in a **diffusion plate** and not to **transflection**.

Therefore, the principal of operation of the diffusion plate of Taiji must be changed in order to adapt it (assuming it could be adapted) to transflection. If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). Also, adapting

a diffusive device to transflection would render the diffusive devise unusable for its intended purpose. If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Also, if a reference needs to be modified to achieve the claimed invention "there must be a showing of a suggestion or motivation to modify the teachings of that reference to the claimed invention in order to support the obviousness conclusion." Sibia Neurosciences Inc. v. Cadus Pharmaceutical Corp., 225 F.3d 1349, 55 USPQ2d 1927 (Fed. Cir. 2000).

Further, the rigorous burden placed upon the Examiner for establishing *prima facie* obviousness has been emphasized by the United States Court of Appeals for the Federal Circuit in In re Sang Su Lee, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002). In Sang Su Lee, the court states:

As applied to the determination of patentability ~~vel non~~ when the issue is obviousness, "it is fundamental that rejections under 35 U.S.C. §103 must be based on evidence comprehended by the language of that section." In re Grasselli, 713 F.2d 731, 739, 218 USPQ 769, 775 (Fed. Cir. 1983). The essential factual evidence on the issue of obviousness is set forth in Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966) and extensive ensuing precedent. The patent examination process centers on prior art and the analysis thereof. When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. See, e.g., McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 1351-52,

60 USPQ2d 1001, 1008 (Fed. Cir. 2001) ("the central question is whether there is reason to combine [the] references," a question of fact drawing on the Graham factors).

The need for specificity pervades this authority. See, e.g., In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed"); In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998) ("even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious."); In re Fritch, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992) (the examiner can satisfy the burden of showing obviousness of the combination "only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references"). In re Sang Su Lee at 277 F.3d 1342.

A person having ordinary skill in the art would therefore not be motivated to produce the invention as embodied in independent claims 1 and 10 from the combination of Taiji with Kubo. Claims dependent upon claims 1



and 10 are patentable for at least the above reasons. Accordingly, a *prima facie* case of obviousness has thus not been made.

**C. Summary**

The invention uses a transmissive material having a reflective material scattered on a surface thereof in a truly novel fashion. As has been shown, the Examiner has failed to establish a *prima facie* case of obviousness over the conventional LCD of Kubo combined with the diffusion plate of Taiji.

Accordingly, reversal of the Examiner's rejection of claims 1-5, 7-13 and 15-7 based on the above arguments is respectfully requested.

**IX. CONCLUSION**

The Appellant has demonstrated that the Examiner has failed to successfully allege that the rejected claims are *prima facie* obvious. It is clear that the inventive transfective LCD represents a truly inventive display technology. For the reasons advanced above, it is respectfully submitted that all claims in this application are allowable. Thus, favorable reconsideration and reversal of the Examiner's rejection of claims 1-5, 7-13 and 15-7 under 35 U.S.C. §103(a), by the Honorable Board of Patent Appeals and Interferences, are respectfully solicited.

Appeal Brief filed June 13, 2005

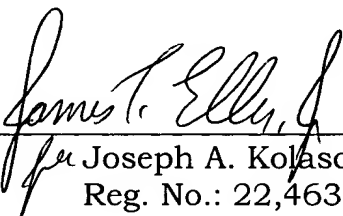
Appl. No.: 09/621,281  
Group: 2871

The required Appeal Brief fee in the amount of \$500.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fee required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By:  #39,538  
Joseph A. Kolasch  
Reg. No.: 22,463

JAK/REG:jls



Attachment: APPENDIX A

P.O. Box 747  
Falls Church, VA 22040-0747  
(703) 205-8000

**APPENDIX A**

**CLAIMS APPENDIX**

1. (Previously Presented) A transflective liquid crystal display device, comprising:

a transflective liquid crystal display panel having a first transparent substrate, a second transparent substrate, and a liquid crystal layer interposed between the first and second transparent substrates, the first transparent substrate having a color filter, the second transparent substrate having a plurality of pixel regions, a pixel electrode and a reflector, the reflector having a light transmitting hole which the pixel electrode covers, the light transmitting hole transmitting light;

a transflective film located outside of the second transparent substrate of the liquid crystal display panel around a location corresponding to the light transmitting hole, the transflective film being made of a transmissive material with reflective material scattered on a surface of the transmissive material, the reflective material reflecting light, the transmissive material transmitting light; and

a back light device for supplying light toward the transflective film;

wherein each pixel region is divided into reflective and transmissive portions, and a reflection brightness of the transflective liquid crystal display

device is improved due to a first reflected light at the reflector of the reflective portion and a second reflected light at the transflective film of the transmissive portion, and a concentration of the reflective material scattered on the surface of the transmissive material is adjusted according to a main mode of the transflective liquid crystal display device.

2. (Previously Presented) The transflective liquid crystal display device of claim 1, wherein the reflective material of the transflective film is selected from the group consisting of Ag and Al.

3. (Previously Presented) The transflective liquid crystal display device of claim 1, wherein the transmissive material of the transflective film is an acrylic-based resin.

4. (Original) The transflective liquid crystal display device of claim 1, wherein the reflector is made of an opaque conductive material.

5. (Original) The transflective liquid crystal display device of claim 1, wherein the pixel electrode is made of indium tin oxide (ITO).

6. (Cancelled)

7. (Previously Presented) The transflective liquid crystal display device of claim 1, wherein the transflective liquid crystal display device has a reflective main mode, and the concentration of the reflective material is increased.

8. (Previously Presented) The transflective liquid crystal display device of claim 1, wherein the transflective liquid crystal display device has a transmissive main mode, and the concentration of the reflective material is decreased.

9. (Previously Presented) The transflective liquid crystal display of claim 1, wherein the hole has a circular shape or a rectangular shape.

10. (Previously Presented) A transflective liquid crystal display device, comprising:

a transflective liquid crystal display panel having a first transparent substrate, a second transparent substrate, and a liquid crystal layer interposed between the first and second transparent substrates, the first transparent substrate having a color filter, the second transparent substrate having a plurality of pixel regions, a pixel electrode and a reflector, the reflector having a

light transmitting hole which the pixel electrode covers, the light transmitting hole transmitting light;

a transflective film located outside of the second transparent substrate of the liquid crystal display panel around a location corresponding to the light transmitting hole, the transflective film being made of an acrylic-resin based transmissive material with reflective material scattered on a surface of the transmissive material, the reflective material reflecting light, the transmissive material transmitting light; and

a back light device for supplying light toward the transflective film;

wherein each pixel region is divided into reflective and transmissive portions, and a reflection brightness of the transflective liquid crystal display device is improved due to a first reflected light at the reflector of the reflective portion and a second reflected light at the transflective film of the transmissive portion, and a concentration of the reflective material scattered on the surface of the transmissive material is adjusted according to a main mode of the transflective liquid crystal display device.

11. (Previously Presented) The transflective liquid crystal display device of claim 10, wherein the reflective material of the transflective film is selected from the group consisting of Ag and Al.

12. (Previously Presented) The transflective liquid crystal display device of claim 10, wherein the reflector is made of an opaque material.

13. (Previously Presented) The transflective liquid crystal display device of claim 10, wherein the pixel electrode is made of indium tin oxide (ITO).

14. (Cancelled)

15. (Previously Presented) The transflective liquid crystal display device of claim 10, wherein the transflective liquid crystal display device has a reflective main mode, and the concentration of the reflective material is increased.

16. (Previously Presented) The transflective liquid crystal display device of claim 10, wherein the transflective liquid crystal display device has a transmissive main mode, and the concentration of the reflective material is decreased.

17. (Previously Presented) The transflective liquid crystal display of claim 10, wherein the hole has a circular shape or a rectangular shape.